Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
A National Broadband Plan for Our Future	)	GN Docket No. 09-51

REPLY COMMENTS OF SKYPE COMMUNICATIONS, S.A.R.L.

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Summary

Skype Communications, S.A.R.L. ("Skype") applauds the Commission's efforts to take a consumer-centric approach as it develops the National Broadband Plan, and supports this FCC inquiry. As Mr. Seifert, Senior Advisor to the Assistant Secretary; National Telecommunications and Information Administration ("NTIA"), recently testified, "President Obama believes in the transformative power of broadband. Broadband serves as an engine of economic development, enabling communities and regions to develop and expand job-creating businesses and institutions. Communications networks help improve the efficiency of virtually every sector of the economy."[*] The FCC is on the right track.

The FCC should adopt complementary policies to those implemented by NTIA as part of the Broadband Technology Opportunities Program ("BTOP"), including the addition of a non-discrimination policy to the *Internet Policy Statement*. Through these "*Enhanced Internet Policy Principles*," the Commission can renew U.S. broadband leadership and global competitiveness. The NTIA has shown that such policies are workable in practice.

As recently acknowledged by Chairman Genachowski, fostering competition at the "edge" of the Internet (the application and service layer) is extremely important in pushing forward technological advances.[†] Skype agrees that "innovation and job creation happen on the

[*] Testimony of Mark G. Seifert, Senior Advisor to the Assistant Secretary, National Telecommunications and Information Administration, U.S. Department of Commerce, Oversight of the American Recovery and Reinvestment Act of 2009: Broadband Hearings - Subcommittee on Communications, Technology, and the Internet, at 2 (Apr. 2, 2009), available at: http://energycommerce.house.gov/Press_111/20090402/testimony_seifert.pdf.

[†] *See* Amy Shatz, *New FCC Chairman's Agenda Includes Broader Internet Access, More Transparency*, Wall Street Journal (July 20, 2009).

platform, on the edge of the platform and in the cloud."‡

In support of that vision, the Commission must turn U.S. broadband policy away from a narrow focus on supply-side investment incentives, and instead adopt a balanced approach to support growth in *all* facets of the interdependent "Internet ecosystem." The Commission should diversify its focus, and encourage competition and innovation at all layers of the Internet ecosystem.

The primary goal of the Commission's National Broadband Plan should be to rectify policy gaps to address areas where networks can be more efficiently utilized and to protect the "consumer experience," including consumer rights to open networks, devices, services, applications, and content. In so doing, the Commission should embrace a "multi-modal" competition policy where each sector of the Internet ecosystem receives the benefits of demand and supply-side investments, all of which benefit Internet access consumers.

It is also important for the FCC to utilize tools it already has at its disposal to promote the National Broadband Plan, including universal service fund ("USF") reform that supports broadband deployment. Increases in funding for 21st Century broadband should be coupled with a commensurate decrease in support for 20th Century analog services. To further the consumer demand for broadband services, the Commission should support programs that bring broadband to anchor institutions in unserved and underserved communities, digital literacy programs, and undertake other measures that hasten broadband uptake in those areas that have been passed over during the last phase of the broadband revolution.

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‡ *Id.*

The United States faces a broadband "adoption gap" because, in part, broadband-enabled applications have outpaced the network's ability to deliver those services. The FCC can take a two-sided approach to mend this "gap." By adopting policies that support application-level competition, the Commission will encourage more efficient broadband applications, reducing the demand placed on networks. By supporting efficient funding of advanced high-speed networks, the Commission will reduce the need of network operators to undertake restrictive management measures in the first place.

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I. INTRODUCTION AND BACKGROUND

Skype Communications, S.A.R.L. ("Skype")[1] files these reply comments in response to the Notice of Inquiry ("NOI") issued by the Federal Communications Commission ("FCC" or "Commission") in the above-referenced proceeding on the Commission's development of a National Broadband Plan,[2] in response to the requirements of the Recovery Act.[3] Skype applauds the Commission's efforts to take a consumer-centric approach as it develops that Plan.[4] Everyone should have the right to access broadband Internet services, as well as the content and

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[1] Founded in 2003, Skype is revolutionizing the way people communicate around the world. Skype has more than 440 million registered users globally who use Skype software to communicate for free through voice and video calls as well as instant messages. Skype generates revenue through its premium offerings, such as calls made to and from landlines and mobiles, voicemail, call forwarding, and short message service (SMS). Skype is used in almost every country on Earth. Conversations over Skype can take place on computers, mobile devices and Skype Certified™ hardware. According to data provided by the Apple iTunes connect website, as of June 5, 2009, the Skype application for Apple iPhone and iTouch had been downloaded four million times.

[2] *A National Broadband Plan for Our Future*, Notice of Inquiry, GN Docket No. 09-51, FCC 09-31 (rel. Apr. 8, 2009) ("*NOI*").

[3] *See* American Recovery and Reinvestment Act of 2009, Pub. L. No. 111-5, 123 Stat. 115 (2009) ("Recovery Act").

[4] *See, e.g., NOI*, ¶ 24 ("We seek comment on whether (and if so, how) the Commission should evaluate the term "access" with certain basic consumer expectations in mind."). *See also NOI*, ¶¶ 64-69.

innovative applications of their choice, over any network platform, and with the device of their choosing. Ubiquitous, affordable Internet access will forward our nation's economic recovery, its global competitiveness, and increase the opportunities for citizens to interact directly with their government. The FCC is on the right track, and should seize the historic opportunity to create a U.S. broadband policy that restructures and reforms the economic aspects of the existing federal regulatory regime and adopt complementary policies to those implemented by National Telecommunications and Information Administration ("NTIA") as part of the Broadband Technology Opportunities Program ("BTOP").[5] Such changes will facilitate the renewal of U.S. leadership in broadband availability and global competitiveness.

U.S. broadband policy should shift away from a myopic focus on the investment incentives of network operators and should instead adopt a more balanced approach calculated to support growth in *all* facets of the interdependent "Internet ecosystem." The Internet ecosystem is more than pipes used to connect computers–it includes all products and services that supply consumers with a reason to subscribe Internet access services. It includes Internet access facilities, applications, devices, services, social networks, media, and so on.

Consumer demand for content and applications, access to social networks, new devices and technologies and increasing speeds spurs the development and deployment of broadband services. Recent surveys demonstrate that consumer interest in broadband applications and devices is necessary to create demand for the underlying network.[6] Few non-broadband users

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[5] *See* Recovery Act, §§ 6000-6001 ("BTOP").

[6] *See generally Consumer Insights to America's Broadband Challenge*, A Research Series from Connected Nation, Inc. (Oct. 13, 2008).

cite the lack of availability as a factor for why they have not purchased broadband service.[7] As such, the primary goal of the Commission's National Broadband Plan should be to identify policy gaps that address places where networks would be utilized more efficiently and to protect the "consumer experience," as well as consumer rights to open networks, devices, services, applications, and content.

In so doing, the Commission should move away from the narrow "competition" goals of the 1996 Act, and embrace a "multi-modal" competition policy where each sector of the broadband ecosystem receives the benefits of demand and supply-side investments, all of which benefit Internet access consumers. This rearrangement of priorities is required in light of the significant growth of the Internet and Internet applications since the passage of the 1996 Act. We need to revamp priorities: the Commission should focus on a 21st Century national framework, not try to fit new questions into the old regulatory model.

A balanced National Broadband Plan that focuses on both supply and demand will enable the United States to regain its position as a leader in the information economy, and will bring tremendous economic benefits to consumers.[8] Policymakers must focus investment and limited resources on networks, technology, and applications that will have the most significant impact on those Americans that currently do not have access to broadband and those who are unable to take full advantage of available resources. On the supply side, the FCC must adopt

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[7] *Home Broadband Adoption 2009*, A Study by the Pew Internet & American Life Project , at 6 (June 2009).

[8] In 2008, the OECD reported that the United States ranked 15th out of 30 countries surveyed in access to broadband services. http://www.oecd.org/sti/ict/broadband. While much has been made of the accuracy of this rating, the fact remains that there is no universal access to broadband services in the U.S.

incentives for deployment of a high speed, robust, broadband Internet access network–Skype depends on the deployment efforts of access providers and they are a valued part of our ecosystem. Equally if not more important, the FCC must devote its attention to policies focused on increasing demand for broadband Internet services, and equally ensuring consumers have access to the Internet applications that improve the value proposition for broadband, vouchers that make the purchase of broadband technology such as computers and devices more affordable, as well as educational and training initiatives.[9]

The United States faces an "adoption gap" because, in part, applications that utilize broadband services have outpaced the network's ability to deliver those services. Network operators have struggled to provide transmission and connection capabilities to meet consumer demand. The comments in this proceeding make clear how this adoption gap has been realized in the marketplace: network operators increasingly think they must turn to "network management" tools in order to manage increasing network loads. The answer, however, is not to restrict applications, but to build more "pipes."[10]

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[9] The Commission should also provide proposals to Congress for *new programs* that can advance the Plan, such as additional funding for deployment to community anchor institutions, digital literacy, and other programs that advance consumer utilization of, and demand for, broadband services.

[10] An example of the constraints on consumer usage of broadband Internet due to insufficient bandwidth availability is the announcement by AT&T following release of the latest iPhone OS 3.0 software upgrade that AT&T prohibits tethering in the U.S. *See* Leslie Cauley, *IPhone Gulps AT& T Network Capacity*, USA Today, 1B (June 17, 2009), available at: http://www.usatoday.com/printedition/money/20090617/iphone17_st.art.htm (citing analyst assessments that the reason AT&T does not offer tethering options for U.S. iPhone users is the carrier's lack of network capacity.). If permitted, the tethering feature would allow a consumer to use the 3G connection on his iPhone as a wireless modem to connect to the Internet. In contrast, consumers in other countries are able to utilize this tethering feature, thus benefiting the network operator who sells higher levels of bandwidth and the consumer who has access to innovative applications and features.

Skype suggests the FCC can take a two-sided approach to mend this "gap." By supporting application level competition (demand), the Commission will spur the continued development of efficient broadband applications. By supporting efficient funding of advanced high-speed networks (supply), the Commission will reduce the need of network operators to undertake restrictive management measures in the first place.

As the Commission considers the development of a National Broadband Plan, it is also important for the FCC to utilize tools it already has at its disposal to promote that Plan, including regulatory regimes such as a reformed universal service fund ("USF") system and industry provided technical tools that are designed to measure bandwidth availability and performance, such as Measurement Lab or "mLab."[11] and the Georgia Tech Network Access Neutrality Project.[12] These systems provide a number of diagnostic bandwidth tools such as "Pathload2" and "gtnoise," which allow users to determine the available bandwidth of their Internet connection, in both the upstream and downstream directions, using active probing methodologies to estimate available bandwidth in a way that does not depend on a specific protocol or application.[13]

Finally, to further the demand for broadband services, the Commission should support efforts to bring broadband to anchor institutions in unserved and underserved communities,

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[11] *See* http://www.measurementlab.net/. Measurement Lab was founded by the New America Foundation's Open Technology Institute, the PlanetLab Consortium, Google Inc. and academic researchers to enhance Internet transparency by empowering researchers and the public with useful information about their broadband connections.

[12] *See* http://www.gtnoise.net/nano/. Researchers at Georgia Tech established the "gtnoise" system to allow clients to determine whether performance degradations experienced by services or clients are caused by ISP discriminatory policies.

[13] *See* http://www.measurementlab.net/measurement-lab-tools/.

advocate digital literacy programs, and undertake other measures aimed at spurring broadband uptake in those areas that have been passed over during the last phase of the broadband revolution.

II. THE "AVAILABILITY" OF BROADBAND SERVICE SHOULD ENSURE MORE THAN PHYSICAL ACCESS–IT MUST INCLUDE *CONSUMER ABILITY* TO ACCESS AND UTILIZE APPLICATIONS, CONTENT, AND DEVICES OF THEIR CHOICE

A. Consumer Use of Skype's Applications

Although Skype offers free peer-to-peer ("P2P") communications software to consumers in just about every country on the planet, some network operators still prevent consumers from using Skype's applications. By downloading the company's software onto their computers or mobile handsets, Skype users can make free voice calls to others who have also downloaded the Skype software. Consumers are attracted to Skype software as an application that enhances traditional voice communications services because it is free, it is feature-rich allowing users to do more than simply talk with one another, it is extremely easy to download and use, its quality and reliability are very high, it can be used on any computer system connected to the Internet whether that system is fixed or mobile, it works with multiple popular operating systems, and it can be used in conjunction with whatever broadband Internet access the user has (e.g., DSL, cable modem, wireless) to the extent it is not blocked or degraded by network service providers.

Skype is a software application that sits on top of, and depends upon, the user's computer or handset hardware, operating system, and broadband Internet access service. Skype is not a network. It has no routers or other transmission facilities of its own. It does not have any central facility for monitoring users' communications. The communications functions between Skype users are carried out by the users' software, resulting in a pure P2P, distributed, and dis-

intermediated architecture.[14] The decentralized nature of the architecture allows the system to scale indefinitely, without the need for centralized resources.[15] Consumers increasingly demand a broadband world that enables them to take their chosen application wherever and whenever they want. Once the link between access and software is broken, consumers can take the software to any access platform, increasing consumer choice and flexibility. This means that a consumer who begins her Skype conversation using her computer in the office, wants the flexibility and convenience of being able to transfer that conversation to her mobile phone while she drives home, and then to a new consumer device when she enters the house.

Skype was created as, and remains a complement to, both plain old voice service ("POTS") and mobile voice offered by the network operators. Despite arguments from some mobile network operators, Skype is not a direct competitor to wireless carriers.[16] The Commission must not permit wireless carriers to block consumers' access to Skype in the name of competition.[17] In this regard, Skype agrees with Google's Craig Walker, Senior Product Man-

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[14] *See In the Matter of IP-Enabled Services*, FCC 04-28, Notice of Proposed Rulemaking, 19 FCC Rcd 4863, at ¶ 9 n.30 (2004) ("*IP-Enabled Services NPRM*") ("In the 'peer-to-peer' (P2P) model, each party to a communication has the same capabilities and either party can initiate a communication session. Applications residing on a user's PC (or other hardware) permit the user to connect directly to another user's hardware without the assistance of an Internet Service Provider.").

[15] Skype users maintain a "buddy list" or contact information of other Skype users, so that when users log on, their presence can be announced to other users, enabling other Skype users on their contact lists to see that they are online. As the Commission has previously recognized, this sort of directory is not a transmission service. See In the Matter of Petition for Declaratory Ruling that pulver.com's Free World Dialup is Neither Telecommunications Nor a Telecommunications Service, FCC 04-27, Memorandum Opinion and Order, 19 FCC Rcd 3307, at ¶¶ 6, 9-12 (2004) ("Pulver Order").

[16] Tellingly, when a Skype user on the iPhone is having a Skype to Skype conversation over a WiFi network and receives an incoming voice call on AT&T's 3G network, the Skype to Skype call is automatically terminated so that the consumer can accept the AT&T mobile call.

[17] AT&T has argued that, because it had subsidized the iPhone and views Skype as a direct competitor, it was justified in blocking Skype's iPhone application from accessing its network. *See* Leslie

(Footnote continued on next page.)

ager, Voice Products, who recently emphasized that Google's new voice product is not a POTS replacement: "Our point is to make your existing services better, not to replace them."[18] Given that most wireless carriers offer free domestic long distance calling, most users of Skype's mobile applications typically use it for the enhanced, innovative features it provides. Skype *enhances* POTS, which is not the same as competing *with* POTS. Through various consumer-facing disclosures and by bridging the gap between desktop and mobile computers, Skype operates as a complement to a user's Internet connection, not a replacement for the access services provided by carriers.[19]

A marketplace in which wireless carriers block applications that they view as competing is hardly open for applications and devices. As discussed herein, the regulatory structure that the Commission should choose and enforce is one in which the *Internet Policy Statement* applies to all broadband networks, with variations based on the technical characteristics of each network. Under such a regulatory regime, consumers would be allowed to use their mobile

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Cauley, *Skype's iPhone Limits Irk Some Consumer Advocates*, USAToday.com (Apr. 2, 2009), available at http://www.usatoday.com/tech/news/2009-04-01-att-skype-iphone_N.htm ("Jim Cicconi, AT&T's top public policy executive, says AT&T has 'every right' not to promote the services of a wireless rival. 'We absolutely expect our vendors' — Apple, in this case — 'not to facilitate the services of our competitors,' he says."). *See also The Consumer Wireless Experience*, Hearing Before the Senate Comm. on Commerce, Science & Transportation, June 17, 2009 (Testimony of Mr. Paul Roth, President, Retail Sales and Services, AT&T Services, Inc.) (dismissing claims that exclusivity arrangements in the wireless industry harm competition).

[18] Olga Kharif, *Google Voice: Trouble Calling for Skype?*, Business Week (July 19, 2009).

[19] Perhaps the best evidence that Skype is not a direct competitor to wireless carriers is the seven-nation partnership that Skype has struck with European carrier "3". *See* http://www.three.co.uk/Company/3G_Network/Skype ("By removing access and pricing barriers to Skype-to-Skype calls 3 UK is creating a compelling reason for new customers to join 3 and to enjoy all the services available on the UK's biggest mobile broadband network.").

broadband connections for any lawful purpose that does not harm the network. Only in that way is innovation fostered.

The Commission should not accept the view of wireless providers that innovation in the wireless market comes only from the wireless carriers alone. As a software developer, Skype understands that carriers must have incentives to build out their networks and offer broadband services to consumers–as Skype would not exist but for broadband connections. However, despite the minimal level of competition in the U.S. wireless market, Skype submits that we can do better. Consumers benefit from an ecosystem in which carriers, device manufacturers, and software applications developers *all* have the incentive to innovate and offer new products and services.

Perhaps the best illustration of this point is the iPhone and the associated iPhone store. Though the iPhone remains closed in significant ways as Skype and others have explained in the past,[20] it nevertheless illustrates the advantages that derive from an ecosystem in which thousands of companies, and not just wireless carriers, innovate. AT&T has seen demand for its service skyrocket thanks to Apple's iPhone. Demand for the iPhone rests in significant measure on the plethora of applications that consumers are able to purchase in the iPhone App Store–a fact that Apple recognizes as many of its advertisements tout the various applications developed by third party software developers that are available to iPhone users. As an iPhone

[20] *See* Letter to Acting Chairman Michael J. Copps, FCC, from Ben Scott, Policy Director and Chris Riley, Policy Counsel, Free Press, WC Docket No. 07-52, 2 (Apr. 3, 2009) available at: http://fjallfoss.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6520205185 ("Free Press April 9, 2009 Letter") (requesting FCC investigation into wireless carrier practices, including those undertaken with respect to Skype's mobile application).

application, Skype stimulates demand for both the iPhone and the transmission network that the iPhone utilizes.

As software functionality that resides on the "application layer" of the broadband eco-system, Skype does not provide transmission services that compete with network providers' offerings. Skype does not resell voice or any other products offered by the network service providers at the transmission level. Skype is a stand-alone, enhanced, feature-rich application, wholly differentiated from the voice services offered by network service providers. While Skype's service might complement those services provided by the network operator, Skype emphasizes that it does not resell any network service provider offering. Skype does not merely replicate PSTN products; it offers consumers a host of communications tools that can be utilized across network platforms and devices and improves the features offered by traditional and mobile voice providers. As an application, Skype can be used on mobile and wireline networks, as well as on multiple operating systems. Skype also lets consumers leverage the power of the Internet through enhanced features including Instant Messaging, real-time video, file and money transfer services, among others. Although Skype and its users *create* demand for Internet access services, the untapped potential for innovation and growth in the communications space is vast. Given the limitless innovation and opportunities that multi-modal competition can bring to the communications marketplace, the Commission must ensure that non-discrimination principles apply across all access networks. Otherwise, the network will Balkanize back to the "silos" of the 20th century telecommunications regime. Anything less risks under-utilization of the United States' broadband infrastructure, will impede the continued rollout of broadband access facilities, and sells the public interest short.

B. Like NTIA, the Commission Should Adopt a Fifth Non-Discrimination Principle

The Commission's *Internet Policy Statement* principles,[21] standing alone, are not enough to safeguard consumer rights. Skype believes there is an indisputable public interest in ensuring that customers relying on communications networks are given full and free choice with respect to content, applications, services, and devices. Customers in unserved and underserved areas, where inter-modal and intra-modal competition have not yet taken hold, are at most risk of questionable network management practices that undermine their use of such services. The National Broadband Policy must ensure that the Commission's *Internet Policy Statement* goals are fulfilled by allowing consumers to make full use of third-party content, applications, and services that can help drive economic development across all network platforms.[22]

More than simple adherence to the FCC's *Internet Policy Statement* should be required as a condition of any award of government funding, whether through the Recovery Act or the USF program. Although the FCC has stated that it is important to avoid "an inflexible framework"

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[21] *See Appropriate Framework for Broadband Access to the Internet over Wireline Facilities; Review of Regulatory Requirements for Incumbent LEC Broadband Telecommunications Services; Computer III Further Remand Proceedings: Bell Operating Company Provision of Enhanced Services; 1998 Biennial Regulatory Review– Review of Computer III and ONA Safeguards and Requirements; Inquiry Concerning High-Speed Access to the Internet Over Cable and Other Facilities; Internet Over Cable Declaratory Ruling; Appropriate Regulatory Treatment for Broadband Access to the Internet Over Cable Facilities*; CC Docket Nos. 02-33, 01-337, 95-20 & 98-10, GN Docket No. 00-185, CS Docket No. 02-52, *Policy Statement*, 20 FCC Rcd 14986 (2005) ("*Internet Policy Statement*").

[22] As discussed further herein, while the Recovery Act only calls for NTIA to consider application of the *Internet Policy Statement* and additional conditions to the BTOP, the same justifications that drive application of such conditions to the BTOP apply with equal force to the RUS programs funded through the Recovery Act.

that "micromanag[es] providers' network management practices,"[23] Skype supports the adoption of a fifth principle of non-discrimination, and the application of the openness principles across all networks, especially publicly-funded networks and believes that enforcement of a non-discrimination obligation is not micromanaging network management practices. "Protocol-agnostic" network management is presumptively reasonable; but network management that singles out protocols or applications for discriminatory treatment must be justified under the standard the Commission established in the *Comcast Order*. With this non-discrimination addendum, these "*Enhanced Internet Policy Principles*" should direct the Commission's development of the National Broadband Plan.

Recognizing the importance of non-discrimination, and recognizing that such requirements are workable in practice, NTIA and RUS adopted a non-discrimination principle as a condition of BTOP funding. Specifically, and among other things, NTIA and RUS will require all broadband applicants to adhere to the FCC's *Internet Policy Statement*, as well as:

- "not favor any lawful Internet applications and content over others;"
- "display any network management policies in a prominent location on the service provider's web page and provide notice to customers of changes to these policies;" and

[23] *Formal Complaint of Free Press and Public Knowledge Against Comcast Corporation for Secretly Degrading Peer-to-Peer Applications; Broadband Industry Practices Petition of Free Press et al. for Declaratory Ruling that Degrading an Internet Application Violates the FCC's Internet Policy Statement and Does Not Meet an Exception for "Reasonable Network Management*, Memorandum Opinion and Order, File No. EB-08-IH-1518 & WC Docket No. 07-52, ¶50 (rel. Aug. 20, 2008) ("*Comcast Order*").

- "offer interconnection, where technically feasible without exceeding current or reasonably anticipated capacity limitations, on reasonable rates and terms to be negotiated with requesting parties."[24]

The NTIA and RUS will also require applicants to disclose their proposed interconnection, nondiscrimination and network management practices with their application.[25] In establishing these requirements, NTIA and RUS found that the public interest is served by ensuring that public funds be put to use in an open, non-discriminatory manner. The FCC should do the same as it develops the National Broadband Policy. Taking these steps to preserve openness in the context of the development of the National Broadband Policy is particularly relevant in light of the President's recent statement to "remain firmly committed to net neutrality so we can keep the Internet as it should be–open and free."[26] As the FCC's *Comcast Order* makes clear, the *Internet Policy Statement* principles standing alone do not preserve openness.[27]

Arguments against openness and non-discrimination principles are overstated. Several commenters have argued that openness and/or non-discrimination principles may chill private investment or interest in public funding for broadband networks.[28] These concerns are

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[24] Department of Agriculture, Rural Utilities Service, Broadband Initiatives Program, RIN: 0572-ZA01 & Department of Commerce, National Telecommunications and Information Administration, Broadband Technology Opportunities Program, RIN: 0660-ZA28, *Joint Notice of Funds Availability*, at 29 (July 2, 2009), available at: http://www.ntia.doc.gov/frnotices/2009/FR_BBNOFA_090702.pdf.

[25] *See id.*

[26] *Remarks by the President on Securing Our Nation's Cyber Infrastructure*, May 29, 2009, available at http://www.whitehouse.gov/the_press_office/Remarks-by-the-President-on-Securing-Our-Nations-Cyber-Infrastructure/.

[27] *Comcast Order*, ¶ 52.

[28] *See, e.g.*, Comments of USTA, at 11 (warning FCC from adopting regulatory policies that might chill private investment); Comments of NCTA, at 39 ("Requiring broadband providers to offer service in

(Footnote continued on next page.)

unfounded. Wireline broadband service providers must already comply with the principles of the *Internet Policy Statement*. Adding a condition that those providers not discriminate against competing applications will not frustrate the Commission's broadband goals. In fact, it will spur consumer demand for broadband services, which in turn should increase private investment and interest in public funding. When consumers have choices, they participate more fully in the marketplace. Without innovation, industries stagnate. New products and services, and an ability to access them at the consumer's desired time and place, can revitalize the wireline industry, and can impart new growth into a wireless industry that has reached near-saturation in the United States.

Second, some commenters have argued that existing conditions provide flexibility in managing networks, but that additional *Internet Policy Statement* principles will micromanage network management. Again, a basic principle of non-discrimination does not constitute micromanagement. Providers should have the ability to establish reasonable network management practices to ensure that traffic is routed properly, and establish clear, fair pricing and other publicly-available terms of usage to ensure that usage does not over-tax the network's resources. A case-by-case approach, under the standards established in the *Comcast Order*, will avoid "micromanagement," and will ensure that all service providers are treated fairly and equally.

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a particular way may lock them into business arrangements, severely hampering their ability to ensure high-quality, efficient and reliable services for their subscribers."); Comments of ITTA, at 21 ("the Commission should avoid 'open network' policies that produce uncertainty and potentially undermine future private investment in broadband deployment.").

Finally, it is understandable that carriers may have concerns over "regulatory certainty." Skype acknowledges that adjudications under the *Enhanced Internet Policy Statement* are not perfect. Indeed, a case-by-case approach will lead to some level of regulatory uncertainty for both carriers, device manufacturers and application providers. However, a case-by-case approach is the best way to ensure that this uncertainty is shared across the Internet ecosystem and is not, as it currently exists, concentrated almost entirely on the application provider that is searching for ways to reach their customers directly. Through the adoption and application of the *Enhanced Internet Policy Principles*, the Commission can ensure that carriers are well-apprised of what practices may be deemed presumptively reasonable (*i.e.*, protocol agnostic network management), and which ones will require justification under the standards set forth in the *Comcast Order*. The *Enhanced Internet Policy Principles* are clear, reasonable, and predictable.

Openness conditions will support universal broadband. These policy goals are not at odds. By opening networks, consumer demand for broadband will increase. Each consumer is unique and will undoubtedly use broadband to explore the many services and applications that are available over it. An ice cream store is a good analogy. Would the customer prefer the store that offers only vanilla and chocolate or a store that offers 20+ flavors? Broadband without openness conditions is like the store with two flavors. Restricting a consumer's ability to reach and/or subscribe to multiple applications will necessarily reduce demand for broadband. Without consumer protections embodied in the guarantees of openness and non-discrimination, the goal of broadband adoption could be lost.

C. Applying *Enhanced Internet Policy Principles* to All Broadband Platforms Will Help Guarantee Consumers' Internet Freedoms

The *Enhanced Internet Policy Principles* should apply to all broadband services that provide consumer access to the Internet.[29] Consumer rights should not depend on the type of network they use. It should apply equally to wireless networks used to deliver data and voice services to consumers (and which use spectrum held by the United States in trust for the benefit of the American people) and all other broadband technologies. Indeed, consumers desire to access applications through the device of their choice. It is counterintuitive to allow for a structure where consumers can access what they want in a wireline world but then encounter artificial barriers when using wireless devices and networks. Allowing a network operator to prohibit certain uses of Skype and allow other applications is inconsistent with consumer expectations and does not serve the public interest. Wireless networks offer arguably the most efficient means to deliver broadband services to unserved and underserved areas. Americans that access broadband via wireless networks should not be relegated to a 20th Century, monopoly/duopoly-centric regulatory regime.

While the Commission has clearly applied the existing *Internet Policy Statement* principles to wireline broadband networks,[30] to date it has allowed the wireless market to remain the

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[29] In section 230(b) of the Communications Act of 1934, as amended (1934 Act), Congress describes its national Internet policy "to preserve the vibrant and competitive free market that presently exists for the Internet" and "to promote the continued development of the Internet." In section 706(a) of the 1934 Act, Congress charged the Commission with "encourag[ing] the deployment on a reasonable and timely basis of advanced telecommunications capability"–broadband–"to all Americans." Through the *Internet Policy Statement*, the FCC "offer[ed] guidance and insight into its approach to the Internet and broadband that is consistent with these Congressional directives." *Internet Policy Statement*, ¶ 3.

[30] *Formal Complaint of Free Press and Public Knowledge Against Comcast Corporation for Secretly Degrading Peer-to-Peer Applications; Broadband Industry Practices Petition of Free Press et al. for Declaratory Ruling*

(Footnote continued on next page.)

only widely-used communications platform in which the operators exercise an unreasonable amount of control over the applications, content, and devices used by consumers. CTIA-The Wireless Association, for example, declares that the *Internet Policy Statement* does not apply, and should not apply, to wireless networks.[31] CTIA cites "differences" between wireless and wire-line networks,[32] arguing that wireless handsets are integral to the integrity of the wireless network,[33] non-discrimination principles will harm networks and consumers,[34] and competition in the wireless market will give American consumers "real choices."[35]

We can do better than the existing state of competition in the wireless industry. While wireless network coverage has expanded over the past several years, consumers remain strictly tied to applications and services of the carriers' choosing. All wireless network operators have an interest in maintaining a closed ecosystem with respect to the applications available to subscribers. Carriers also continue to employ a range of restrictions on applications via Terms of Service limitations. "Approved" applications are either carrier-created, or thoroughly vetted by the carriers to ensure that they do not provide a means to compete directly with a carrier's service offerings. Though carriers attempt to justify restrictions based on the need to "manage

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that Degrading an Internet Application Violates the FCC's Internet Policy Statement and Does Not Meet an Exception for "Reasonable Network Management, Memorandum Opinion and Order, File No. EB-08-IH-1518 & WC Docket No. 07-52, ¶52 (rel. Aug. 20, 2008) ("*Comcast Order*").

[31] CTIA Comments, at 27-32.

[32] CTIA claims that limited spectrum requires closer management of scarce network resources. *See* CTIA Comments, at 28.

[33] *See* CTIA Comments, at 31.

[34] *See* CTIA Comments, at 32 (stating that not all packets are created equal, and that prioritization must be used to route more important traffic ahead of less important traffic).

[35] *See* CTIA Comments, at 10.

their networks," many of their restrictions are overbroad and anti-competitive.[36] These restrictive practices are more a matter of their incumbent business models rather than an effort to "prevent harm" to their networks. Skype acknowledges that because of technological realities, wireless networks are different than wireline networks,[37] and may require different means to manage finite network resources. However, this does not mean that wireless carriers should be given a regulatory "blank check." The network management exception to the *Internet Policy Statement* (and for that matter the *Enhanced Internet Policy Principles*) adequately addresses these concerns: so long as network management is reasonable and non-discriminatory, wireless carriers can still manage network loads and finite resources in a manner that benefits consumers.

Skype also believes that consumers deserve meaningful choice between subsidized and non-subsidized handsets. They also deserve the right to use applications of their choice, so long as they do no harm to the network. By applying the *Enhanced Internet Policy Principles* to the wireless platform, the Commission would go a long way to ensure that consumers have the freedom afforded to them in the wireless ecosystem that they have been afforded in other areas since *Carterfone*.[38] Perhaps more importantly, the Commission would also establish an open Internet on a platform that will only see increased usage in the future.

With respect to network harm and bandwidth constraints, Skype reiterates that it has the similar incentives as the carriers to ensure that consumers have a high-quality Internet

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[36] *See generally* Free Press April 3, 2009 Letter.

[37] *See* CTIA Comments, at 2.

[38] *Use of the Carterfone Device in Message Toll Telephone Service*, 13 FCC 2d 420 (1968).

experience.[39] In a free marketplace, consumers will make trade-offs between battery life, bandwidth usage, processing power, and other factors.[40] While reasonable network management, including what is required to prevent "harm to the network," may be required, any concerns specific to the wireless platform should be raised in Commission proceedings open discussion forums such as Commission facilitated industry collaborative efforts. Ensuring that the same principles of openness apply on mobile broadband networks is important to the Skype vision of consumers being able to take their Skype conversation anywhere. Skype envisions a broadband world where users can take Skype with them wherever they go, so consumers can use Skype anytime, anywhere, on any device or network.

In keeping with Skype's vision of the broadband future, the following example illustrates how Skype would like to enhance the user experience. A Skype user begins her Skype conversation on the wired Internet in her office. The work day ends, but the call doesn't so she transfers the call to a mobile Internet connection and begins her commute home. The call continues as she arrives home, so she transfers it again, this time to her Skype-enabled televi-

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[39] Skype has mobile versions of its software that are optimized for wireless networks and have been engineered to ensure that the amount of bandwidth consumed by the application is trivial. Recognizing the need for bandwidth efficiency, Skype's mobile software does not engage in any of the "unfriendly" behavior during dormant periods that some carriers appear to fear. For example, the editions of Skype built for Windows Mobile can never serve as a "supernode," regardless of the device's network or other characteristics. This is in part due to Skype's recognition that these mobile devices have limited processing power and a finite battery life. Skype's mobile software also disables more bandwidth-intensive features, such as video and conference calling, found on the regular Skype software. In sum, Skype has already demonstrated that it has the incentives to provide a software product that enables its users to function in bandwidth constrained environments while preserving battery life.

[40] Recognizing bandwidth constraints that plague many broadband networks, Skype undertook a three-year research project to develop its "SILK" codec, which is an algorithm that arranges audio signals for more efficient transmission. Skype's codec achieves better audio quality using 50% less network bandwidth than was previously required, and Skype has made the codec available to other application developers for their use in developing Skype-enabled applications. *See* https://developer.skype.com/silk.

sion and completes the call while tending to her family in the comfort of her living room. Each of the broadband networks must operate in a consistent manner to enable a seamless transition between device and network. This is Skype anywhere. If the Commission does not hold mobile providers to the same network management standards as providers subject to the *Enhanced Internet Policy Principles*, wireless carriers may engage in techniques that degrade the conversation and hide behind "network management" as a justification. In so doing, the Internet experience on the wireless network becomes the *de facto* ceiling for quality standards across all broadband Internet networks. Skype recognizes that all networks face bandwidth constraints, and wireline service providers have the same regulatory mandates to provide, among others, E911, accessibility for the disabled, hearing aid compatibility, number portability, and CALEA compliance. These requirements can be accommodated while protecting the rights of consumers to attach non-harmful devices to and run applications of one's choice on wireless networks, just as they were accommodated on fixed-line networks. Applications used on a mobile handset will not undermine the functionality that enables wireless carriers to comply with applicable regulatory requirements.

Equally harmful are policies that prevent consumers from using devices among various wireless providers' networks. The claim that wireless handsets must be "approved" for each wireless network are easily rebutted. Handsets will still be subject to the Commission's equipment authorization process, which can ensure that they do not interfere with wireless carriers' regulatory obligations. Moreover, wireless carriers already support E911 calling for subscribers who use unlocked phones and for roaming users, which suggests that there is no technical

reason why carriers could not also support such services for third party handsets that are attached to the network.

Finally, applying the *Enhanced Internet Policy Principles* to all broadband platforms is consistent with the FCC's goal of a unified regulatory regime for all like services. Policy should be technology neutral. The Commission has classified wireless broadband services as Title I "information services,"[41] just like DSL,[42] cable modem,[43] and broadband over power line.[44] The Commission noted that such a classification "furthers [the Commission's] efforts to establish a consistent regulatory framework across broadband platforms by regulating like services in a similar manner."[45] By affirming that the *Enhanced Internet Policy Principles* apply to wireless networks, the Commission would further this important policy of technological neutrality and regulatory parity.

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41 *Appropriate Regulatory Treatment for Broadband Access to the Internet Over Wireless Networks*, Declaratory Ruling, WT Docket No. 07-53, FCC 07-30, at 2, ¶ 2 (rel. Mar. 23, 2007) ("Wireless Broadband Order").

42 *Appropriate Framework for Broadband Access to the Internet over Wireline Facilities; Universal Service Obligations of Broadband Providers; Review of Regulatory Requirements for Incumbent LEC Broadband Telecommunications Services; Computer III Further Remand Proceedings: Bell Operating Company Provision of Enhanced Services; 1998 Biennial Regulatory Review - Review of Computer III and ONA Safeguards and Requirements; Conditional Petition of the Verizon Telephone Companies for Forbearance Under 47 USC §160(c) with Regard to Broadband Services Provided via Fiber to the Premises; Petition of the Verizon Telephone Companies for Declaratory Ruling or, Alternatively, for Interim Waiver with Regard to Broadband Services Provided via Fiber to the Premises; Consumer Protection in the Broadband Era*, Report and Order and Notice of Proposed Rulemaking, 20 FCC Rcd 14853 (2005).

43 *Inquiry Concerning High-Speed Access to the Internet Over Cable and Other Facilities; Internet Over Cable Declaratory Ruling; Appropriate Regulatory Treatment for Broadband Access to the Internet Over Cable Facilities*, Declaratory Ruling and Notice of Proposed Rulemaking, 17 FCC Rcd 4798 (2002).

44 *United Power Line Council's Petition for Declaratory Ruling Regarding the Classification of Broadband over Power Line Internet Access Service as an Information Service*, WC Docket No. 06-10, Memorandum Opinion and Order, 21 FCC Rcd 13281 (2006).

45 *Id.*

Likewise, although satellite, broadband over powerline, and other nascent technologies may be in their infancy, the Commission should apply the same regulatory principles–namely, the *Enhanced Internet Policy Principles* across all modes of transmission. The Commission should not have to rewrite policy for each new technology that arrives.

The Commission should affirm that the *Enhanced Internet Policy Principles*, including the "right to attach" for wireless platforms and "no blocking" principles, apply regardless of the technology used to provide broadband services. To the extent that carriers must restrict certain applications such restrictions should be tied to the specific network management issues and technical characteristics of the applications and should not broadly apply to restrict all uses of particular applications irrespective of their technical impact on the network.

D. Adopting Clear, Enforceable Principles of Openness Will Shift National Policy For The Broadband Ecosystem Away From Failed Attempts to Achieve Inter-Modal Competition, and Towards Supporting Competition at the Application Layer

The Commission should move away from the narrow "competition" goals of the 1996 Act, which largely focuses on oligopoly intra-modal and duopoly inter-modal competition, and toward a "multi-modal" competition policy where each sector of the broadband ecosystem receives the benefits of demand and supply-side investments, all of which benefit Internet access consumers. As an application layer competitor, Skype can benefit from consumer demand for Skype services, and of course, must compete with other application-layer services, as well as services and content provided at other layers of the broadband ecosystem, to maintain that demand. Network operators also benefit from that demand, as well as from supply-side investments in the broadband infrastructure used by consumers to access applications and

content. Of course, that robust consumer demand for application layer services and content, (which in turn will spur demand for network/transmission layer services) will be forever lost if consumers are unable to actually access the applications and content of their choice. Openness and non-discrimination principles are critical to ensure fair multi-modal competition, which will in turn drive broadband deployment and consumer uptake. The Commission should adopt policies that encourage competition and innovation at any and all levels of the broadband ecosystem, rather than focusing exclusively on one area. By fostering multi-modal innovation and competition diversity across the entire broadband ecosystem, the Commission can better see what works, which in turn will ensure that policies will result in positive outcomes for the American public.

Consumers know what they want: device and application freedom and open networks. Recent statistics on consumer demand for control over their mobile devices and service experiences demonstrates this point, especially in light of the significant control most wireless network operators impose on mobile consumers. According to a recent study undertaken by Zogby International for Skype,[46] most mobile users still perceive a gap between the purpose and controllability of their computers versus their mobile devices. This gap correlates with the finding that the vast majority of mobile users do not, or cannot, yet download applications to their mobile handsets. However, the study also demonstrates that consumers have a strong desire to be able to choose mobile applications for themselves, and not have their carriers decide

[46] *See* http://about.skype.com/2009/03/worldwide_consumers_still_perc.html.

what applications they can use. The study results also indicate that consumers will pay more for a device that will allow them to control the applications.

The National Broadband Plan should support the constituencies of the broadband ecosystem to do what they do best, and promote multi-modal competition. The promise of a customer-centric broadband ecosystem is one where each provider performs a function it does best. Software companies build software, network owners build networks, equipment manufacturers build equipment, and consumers provide competitive demand across all layers and platforms. In this way, value is shared across the ecosystem and consumers benefit from the comparative advantage of each contribution.

Skype plays a significant role in the broadband ecosystem that delivers critical benefits to consumers. Skype enables users, especially those in rural America, to connect to a global network and reach new markets. In the legacy PSTN world, the network operator delivered both the transmission service and the "applications" such as voice service, voicemail, and call forwarding, that a consumer had no choice but to purchase from the network operator. "Innovation" was limited to services that the *carrier* chose to make available to the consumer at a price decided by the carrier without competitive pressure.

Today, connecting to the Internet through a broadband connection and using applications like Skype empowers consumers to take back control over the way they communicate with other people, allows consumers to select the features and functionalities they would like to use, and decreases the retail price associated with service offerings. Universal availability of broadband Internet access services and the applications that make those services so compelling are certain to have a direct impact on important national policy goals, including: creating and

growing jobs, enhancing consumer welfare, extending health care, addressing environmental concerns and conserving energy, improving education, improving public safety and national security, and facilitating democratic participation. As aptly noted by the Commission in the *NOI*, consumer welfare has been and must continue to be a primary driver behind the Commission's broadband policy decisions.[47] Ubiquitous and affordable broadband will spur innovation and make the Internet a more significant and powerful part of the lives of people all across America, whether at home, work or play. Although we cannot predict the next transformative broadband-enabled application, existing applications such as Skype already demonstrate the compelling public benefit of broadband. Such access enables affordable communications, free expression, enhanced functionality and interactivity, and importantly, gives every user the opportunity to participate in citizen driven democracy. Because of the decentralized, disintermediated nature of Skype's software architecture, Skype can offer consumers affordable communications to users all over the world, to both broadband Internet access connections and to the PSTN. Skype users are limited by only one condition–the availability of open, broadband Internet access services. The National Broadband Plan should move away from legacy regulatory structures, and move towards a policy of supporting all layers of the broadband ecosystem. In so doing, the Commission will not only prop up consumer demand, but will also support multi-modal competition amongst the different layers of the broadband ecosystem to the benefit of all consumers.

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[47] *See NOI*, ¶ 65 (citing the *Internet Policy Statement*).

E. Defining Broadband

The threshold issue under consideration by the Commission is how to define broadband,[48] access to broadband,[49] and broadband capability.[50] The Recovery Act mandates that the FCC establish a National Broadband Plan that ensures universal, nationwide access to broadband capability.[51] The Plan must include benchmarks by which to measure the efficacy of the mechanisms proposed to ensure such access as well as a strategy for achieving affordability.[52] Moreover, the FCC must put forth "a plan for use of broadband infrastructure and services in advancing consumer welfare, civic participation, public safety and homeland security, community development, health care delivery, energy independence and efficiency, education, worker training, private sector investment, entrepreneurial activity, job creation and economic growth, and other national purposes."[53]

Skype agrees with Google's analysis that "broadband" is communications infrastructure.[54] With the right public policy, it has the potential to serve as a robust and open platform for Internet connectivity. For purposes of its Report to Congress, the FCC should define broadband as technology-neutral, high-speed communications *infrastructure* that allows users to harness the Internet, access and upload content, and otherwise engage in high speed two-way

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48 *See NOI*, ¶ 16.

49 *See NOI*, ¶ 24.

50 *See NOI*, ¶ 15.

51 *See* Recovery Act, § 6001(k)(1-2).

52 *See* Recovery Act, § 6001(k)(2).

53 *See* Recovery Act, § 6001(k)(2)(D).

54 *See* Google Comments, at 4.

connectivity and interactivity. Skype agrees with Google's assessment that broadband is *not* the Internet, or even access to the public Internet.[55] In the network layers model, broadband constitutes the lower layer network facilities and infrastructure provided by carriers. Conversely, the Internet includes upper-level activities, applications, and other services offered by content providers. In short, "broadband" is the physical infrastructure that provides users connective pathways to reach the Internet. "Broadband availability" is directly tied to consumer affordability and access.

F. Stand-Alone Broadband Will Promote Broadband Availability to Consumers.

Consumer availability of broadband is directly related to price and competition. To spur demand for and uptake of broadband services, the Commission should require all broadband providers to offer broadband service on a stand-alone retail basis.[56] Recently, it has been the Commission's practice to subject broadband to a "lighter regulatory touch" because the "broadband Internet access market today is characterized by several emerging platforms and providers, both intermodal and intramodal, in *most* areas of the country."[57] However, there is no competition for broadband service in unserved areas and, even where competition exists, consumers will not receive the benefits of competition if network providers are permitted to tie their applications to the network service. In order to protect consumers, the FCC must prohibit network operators from tying broadband service to any of the recipient's other products or

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[55] *See* Google Comments, at 8.

[56] *See* Vonage Comments, at 4-5.

[57] *Appropriate Framework for Broadband Access to the Internet over Wireline Facilities*, CC Docket No. 02-33, Report and Order and Notice of Proposed Rulemaking, 20 FCC Rcd 14853 para. 3 (2005) (emphasis added).

services.

Apart from time-limited commitments in some, but not all, mergers,[58] the FCC does not prevent network operators from requiring consumers to purchase broadband service bundled with voice and other services. The Commission previously held that compelling ILECs to provide stand-alone DSL would be tantamount to ordering the unbundling of the low frequency portion of the loop, which it has expressly declined to unbundle.[59] It therefore prohibited states from imposing any such requirement, and took no further action to clarify or revisit this holding. The market reflects the lack of such rules. Recently, the Maine Consumer Advocate commented that it would take a rocket scientist to find the rate and offering of stand-alone DSL service on the web and the ILECs' customer service reps cannot find it either.[60]

Stand-alone broadband would allow consumers the option of purchasing the transmission medium without being forced to also purchase application-layer services. A stand-alone service obligation would not create additional costs on network providers. It would, however,

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[58] *Compare Verizon Comms. Inc. and MCI, Inc. Applications for Approval of Transfer of Control,* WC Docket No. 05-75, 20 FCC Rcd 18433 (2005) ("By conditioning this merger on the offering of a stand-alone DSL broadband offering, we create an opportunity for the development of competitive Voice Over Internet Protocol (VoIP) and help spur innovative communications technologies. According to consumer advocates, many consumers will want bundled services, but when companies unilaterally mandate that broadband and phone services be purchased together, they diminish the incentive of consumers to purchase VoIP phone service from competing providers or to rely on wireless service as their primary option." Statement of Commissioner Adelstein); *and SBC Comms. Inc. and AT&T Corp. Applications for Approval of Transfer of Control*, WC Docket No. 05-65, 20 FCC Rcd 18290 (2005); *AT&T Inc. and BellSouth Corp. Application for Transfer of Control*, WC Docket No. 06-74, 22 FCC Rcd 5662 (2007); *with Applications Filed for the Transfer of Control of Embarq Corporation to CenturyTel, Inc.*, Memorandum Opinion and Order, WC Docket No. 08-238 (rel. June 25, 2009) (approving merger without comparable conditions).

[59] *Bellsouth Telecommunications, Inc. Request for Declaratory Ruling*, WC Docket No. 03-251, 20 FCC Rcd 6830 para. 25 (2005).

[60] *See* Reply Comments of the Maine Public Advocate, WC Docket No. 05-337, CC Docket No. 96-45, at 11-12 (filed June 8, 2009).

support competition at the application layer, which in turn will spur consumer demand at all layers of the broadband ecosystem. "The practice of 'tying' broadband service to other services is anticompetitive, and the public interest dictates that the FCC proscribe it to the greatest extent possible."[61] Tying broadband to other application-layer services forces consumers to take services they may not want. This slows the adoption of both broadband and stand-alone applications that ride over broadband. Genuine application competition can only exist if broadband providers offer service on a stand-alone basis.

III. UNIVERSAL SERVICE REFORMS ARE NECESSARY TO ENSURE UNIVERSAL BROADBAND AVAILABILITY

Although few broadband Internet users associate their experience with the arcane regulatory systems associated with the federal Universal Service Fund, the reality is that the current USF rules create incentives for continued deployment and maintenance of narrowband voice networks, rather than broadband Internet access networks. Skype recommends that the FCC retool USF to meet the Nation's broadband goals. The goals of section 254—transparency, ubiquity, and affordability—should be used to help the FCC deliver broadband to consumers throughout the Nation. First, by assessing and supporting the broadband pipes over which consumers can receive multiple, competitive services, both USF contributions and distributions will be more transparent and easier for consumers to track and understand. Second, by repurposing universal service to support broadband rather than narrowband networks, the FCC will advance deployment to all areas of the Nation. Third, through support of open and nondiscriminatory broadband infrastructure that can be used to offer multiple services and enable

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[61] Vonage Comments, at 4.

competition at the application layer, the FCC can advance affordability for all consumers. It can also advance affordability for low income consumers by expanding that program to address broadband costs.

A. The FCC Must Analyze the Statute and Recommend Changes, if Necessary, to Congress

Skype understands that the American public wants results, not excuses about why laws, rules or policies prevent what they desire most: universal access to their services. However, the fact remains that the Commission must follow a roadmap to reach the intended result. As Mr. Levin noted in his presentation at the FCC's July meeting, the recommendations in the broadband plan will not be self-executing. Before issuing the plan in February, the FCC must determine if existing law (specifically, Sections 254 and 214) provide the flexibility to reach the right result, or whether to recommend statutory changes to promote broadband.

Section 254(c)(1) defines "universal service" as "an evolving level of ***telecommunications services***" established by the FCC on recommendation by the Joint Board. Although section 254(c)(1) states that the FCC should take into account advances in telecommunications and information technologies, the definition does not include either information services or telecommunications. In 1997, the FCC concluded that the information service component of Internet access could not be supported under section 254(c)(1).[62] It recognized, however, that consumers use telecommunications services to access the Internet. Because the 1997 record did not show a substantial majority of residential consumers accessed the Internet using network

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[62] *Federal-State Joint Board on Universal Service*, CC Docket No. 96-45, Report and Order, 12 FCC Rcd 8776, ¶ 83 (1997) ("*Universal Service Order*") (subsequent history omitted).

transmission links higher than voice grade access, the FCC limited universal service to voice grade access.

In the past decade things have changed. Now that a majority of residential consumers subscribe to broadband Internet access, some have argued that the FCC can reverse its 1997 finding and provide USF support for broadband Internet access.[63] While the Tenth Circuit has admonished the FCC to consider all principles when implementing its USF programs,[64] it is not clear that these principles can expand the Commission's statutory authority under section 254(c)(1)'s definition of universal service or the number of support programs.[65]

The definition of universal service can be contrasted with the e-rate program, which supports both telecommunications and information services, which allows the FCC to designate "additional services" for support under the e-rate program.[66] The FCC interprets "additional services" to include information services. No similar language expands the definition of universal service used in the existing high cost program.

The statute also restricts the type of provider eligible to receive high cost universal service support. Only ***common carriers*** that meet statutory requirements qualify for universal

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[63] Those parties generally rely on two USF principles supporting access to advanced telecommunications and information services. They provide that "access to advanced telecommunications and information services should be provided in all regions of the Nation" and "consumers in all regions of the Nation … should have access to telecommunications and information services… that are reasonably comparable" to those in urban areas. 47 U.S.C. § 254(b)(2) & (3).

[64] *See Qwest Communications Int'l, Inc. v. FCC*, 398 F.3d 1222 (10th Cir. 2005) (*Qwest II*).

[65] Specifically, section 254(c)(1) high cost universal service, section 254(h)(1) support for rural health care providers and schools and libraries, and section 254(j) lifeline assistance for low income consumers)

[66] *See* 47 U.S.C. § 244(c)(3).

service support.[67] In order to satisfy these requirements, the recipient must provide telecommunications services.[68] In the *Wireline Broadband Order*, however, the FCC determined that: "wireline broadband Internet access service provided over a provider's own facilities is appropriately classified as an information service because its providers offer a single, integrated service (*i.e.*, Internet access) to end users."[69] After a transition period, the FCC permitted facilities-based carriers to "detariff" broadband transmission services and offer them on a private carrier basis. The FCC made similar classifications for cable, wireless, and other broadband services.[70] As such, under current FCC rulings, there is no "telecommunications service" underlying broadband Internet access that could be included in the definition of universal service under section 254(c)(1).

In November 2007, the Joint Board recommended including broadband Internet access as a supported service in a separate broadband fund, but did not address the conflict between section 254(c)(1)'s telecommunications service requirement and the FCC's classification of broadband Internet access as an information service. In order to promote broadband deployment, the FCC must address this issue and make recommendations on how best to resolve it.

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[67] In contrast, Section 254(h)(2)(A) permits e-rate support for non-telecom carriers. *See also Universal Service Order*, ¶¶ 29, 37.

[68] *See* 47 U.S.C. § 153(44) ("A telecommunications carrier shall be treated as a common carrier under this Act only to the extent that it is engaged in providing telecommunications services.…"). *See also Virgin Islands Tel. Corp. v. FCC*, 198 F.3d 921, 923 (D.C. Cir. 1999) ("In other words, whether a carrier will be subject to common carrier regulation pursuant to §153(44) turns on whether it offers 'telecommunications for a fee directly to the public, or to such classes of users as to be effectively available directly to the public.'" (*citing* 47 U.S.C. § 153(46) (definition of telecommunications service)).

[69] *Appropriate Framework for Broadband Access to the Internet over Wireline Facilities*, 20 FCC Rcd. 14853, ¶ 14 (2005) ("*Wireline Broadband Order*").

[70] *See supra* notes 41-44.

The FCC could consider options such as (1) relying on the section 254(b) principles to establish a separate broadband fund, (2) recommending changes to the statute, and (3) revisiting the classification of transmission services used as an input in broadband Internet access. Skype outlines the third option below.

In order to advance broadband deployment, the FCC may determine that a facilities-based carrier self-providing transport is "providing" telecommunications to itself for incorporation in its information service (broadband Internet access). The carrier would provide the telecommunications to its enhanced service operations, but the service provided to the end user could continue to be classified as an information service. As the FCC did in the *Wireline Broadband Order*, it could give providers the option of classifying the transmission service as a telecommunications service. Using this self-classification option, cable modem, wireline broadband, satellite broadband, wireless broadband, and other providers of broadband Internet access could choose whether or not to become common carriers eligible to receive USF support for the underlying broadband transmission. Classifying self-provided broadband transmission as telecommunications would also expand the base of services that contribute to support universal service. Whether or not the carrier selected telecommunications service status, the FCC could require USF contributions on all broadband services under its section 254(d) permissive authority to assess telecommunications.

There may be other options for the FCC to support broadband with universal service under the current statute. Regardless of which option the FCC uses, it should ensure, prior to issuing its plan, that it has statutory authority to follow through on the recommendations included in that plan.

B. All Universal Service Processes Should Be Transparent

The FCC should rapidly implement new internal processes, oversight, and controls to ensure that program goals are met. Consumers who pay fees to support to the universal service fund should see–in plain terms–where the money comes from, how much money is being spent on universal service funding, and how the support is used to advance the goals of universal service.

The current high cost fund violates the principle of transparency in numerous ways. First, it is bifurcated into so many different sub-funds that it is impossible for the public to determine why or how the support is allocated to particular carriers. Qwest, among others, has complained that it serves very rural areas without receiving any high cost support. Per line support amounts for the top ten high cost recipients ranged from $16,834 to $4,729 in 2008.[71] One would think that with annual per line support this high, each of the top ten recipients would have deployed broadband to their entire service territory. Although the FCC may be able to determine (based on Form 477 broadband reports) whether this is the case, Skype is aware of no USF-related reports that provide network information for USF recipients or show how the recipients spend the funds. To the contrary, Congress issued inquiries to certain carriers seeking to obtain such data, which has not been released to the public.[72] Consumers

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[71] FCC Response to U.S. House of Rep. Committee on Energy and Commerce Universal Service Fund Data Request of April 1, 2009, Part 3, available at: http://energycommerce.house.gov/Press_111/20090605/Request_3.pdf.

[72] Chairman Henry A. Waxman Memorandum to Members of the Committee on Oversight and Government Reform, July 28, 2008, available at: http://oversight.house.gov/documents/20080728094856.pdf (Waxman July Memorandum). *See also* sample letters to high cost recipients available at: http://oversight.house.gov/documents/20080728115238.pdf and http://oversight.house.gov/documents/20080728115305.pdf.

across the Nation support universal service through the fees assessed by their carriers. Those consumers have a right to know how their funds are spent.

Second, there is no mechanism for the public to ensure their public funds are being spent on the intended purpose. The Office of the Inspector General ("OIG") reports that the erroneous payment rate in distribution of high cost support was an alarming 23% with estimated erroneous payments of $970 million.[73] In the latest round of audits, the most significant source of erroneous payments was inadequate carrier documentation.[74] Yet organizations representing audited companies have complained that the audits do not accurately reflect program performance, are not producing recommendations for improvement, and are imposing heavy costs on consumers that fund USF programs.[75] The only other means of ensuring support is used for its intended purpose is carrier and state self-certifications.[76] The FCC must impose more transparency and controls on the USF contribution and distribution processes.

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[73] *The High Cost Program, Initial Statistical Analysis of Data From the 2007/2008 Compliances Attestation Examinations*, Office of Inspector General, FCC, at 2 (Nov. 26, 2008), available at: http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-286971A1.pdf.

[74] *Id.* at Tables 2, 3 & 4.

[75] Letter from David Cohen, Vice President, Policy, USTA, to Marlene H. Dortch, Secretary, FCC, Docket No. 05-195 (May 29, 2009) ("USTA/CTIA Ex Parte Letter"), available at: http://fjallfoss.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6520217765.

[76] 47 C.F.R. §§ 54.314, 54.802, 54.903.

C. Universal Service Subsidies Should be Targeted to Broadband Networks, Not Narrowband Services

1. USF Should Support the Broadband Services Used by a Substantial Majority of Residential Consumers

To support the ultimate goal of ensuring that all consumers are able to access broadband Internet services, as well as the content and innovative applications of their choice, the Commission must begin the difficult task of ending support for narrowband voice service. Federal universal service subsidies should be repurposed away from narrowband voice services, and repositioned toward broadband transmission, especially the last mile. The universal service fund should provide transparent support for broadband networks so that consumers can see where and how their universal service fees are used to bring advanced telecommunications and information network infrastructure to all areas of the Nation.

As the FCC recognized in the *NOI*,[1] the investment of $7.2 billion in Recovery Act funds to increase the number of affordable broadband connections in unserved and underserved areas of the country is only the first step towards achieving universal availability of broadband infrastructure at affordable rates.[2] To complement the BTOP, the FCC must reform programs under its jurisdiction to achieve the nation's broadband goals. Specifically, the FCC should reform the USF to enable the transition to a broadband nation. Shifting support away from traditional voice networks to robust broadband and IP-enabled infrastructure would meet the

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1 *See NOI*, ¶ 6.

2 *See* Communications Daily, Competition, Federal Money Called Needed to Extend Broadband (June 19, 2009) (finding that industry estimates of $60 billion in private funding spent on broadband annually and cost of $14 billion to $45 billion to extend broadband to unserved).

statutory requirements of the Recovery Act to establish a National Broadband Plan that "ensures that all people of the United States have access to broadband capability…"[3] and the section 254 principles that consumers in all regions should have access to advanced telecommunications and information services.[4]

Consumers have migrated from the old phone network towards broadband access that enables multiple service delivery, including telephone service and Internet access. According to FCC statistics, as of October, 2007, over 50% of U.S. households had high speed Internet access.[5] More recently, Pew Internet reported that as of April 2009, 63% of adult Americans had high speed Internet connections at home.[6] The FCC should follow consumers. Universal service support for broadband, together with open technologically neutral enforcement of the *Enhanced Internet Policy Principles*, will enable all consumers, including rural and low income, to access multiple communications services offered by multiple providers. For example, a customer in a rural area with access to stand-alone broadband made possible by BTOP and/or federal USF could reduce their communications costs by having free Skype conversations with distant friends and neighbors; small business owners could increase their reach into the global market place; consumers could cut their video bills by only ordering programs on demand; and grandparents could have daily face to face conversations with their grandchildren.

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[3] Recovery Act, § 6001(k)(2).

[4] 47 U.S.C. §254(b)(2) & (3).

[5] Trends in Telephone Service, Chart 2.10, (Aug. 2008), available at: http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-284932A1.pdf.

[6] PEW Internet & American Life Project, Home Broadband Adoption 2009, at 9 (June 2009) ("*PEW Broadband Report*").

Today consumers demand, and providers offer, multi-purpose networks that carry voice, data, and video over a single pipe to the home. Notwithstanding this shift in communications, the high cost fund provides subsidies to network operators providing plain old telephone service or "POTS," defined (for purposes of high cost support) to include local voice usage, touch tone service, single party service, equal access to long distance voice services, access to operator, directory assistance, toll and emergency services, and toll limitation.[7] This narrowband, voice focus not only fails to recognize what consumers want and demand, it is also inconsistent with the statute. It violates the definition of universal service which requires the fund to support an evolving level of service demanded by consumers, provided by network operators, and consistent with the public interest.

Section 254(c) establishes four criteria to define and update universal service. Services that qualify for universal service support should be essential to education, public health, or public safety; subscribed to by a substantial majority of residential customers; deployed in public networks by telecommunications carriers; and consistent with the public interest. As Mr. Seifert, Senior Advisor to the Assistant Secretary; NTIA, recently testified, "President Obama believes in the transformative power of broadband. Broadband serves as an engine of economic development, enabling communities and regions to develop and expand job-creating businesses and institutions. Communications networks help improve the efficiency of virtually every sector of the economy."[8] National policy recognizes that broadband infrastructure is essential

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[7] 47 C.F.R. § 54.101(a).

[8] Testimony of Mark G. Seifert, Senior Advisor to the Assistant Secretary, National Telecommunications and Information Administration, U.S. Department of Commerce, Oversight of the American

(Footnote continued on next page.)

to economic development and the public's education, health, and safety, meeting the first and fourth statutory criteria for classification as a supported universal service.[9] When 63 percent of residential customers subscribe to broadband Internet access, it is clear that broadband infrastructure meets the second, residential subscription requirement.[10] FCC statistics show that 96% of residential premises had access to high-speed lines as of December 31, 2007.[11] Those statistics, together with the network operators' boasts of continued capital investment and success rate in deploying broadband to their customers, make clear that the third statutory criteria is also met.[12]

Rural areas of the Nation do not enjoy equal access to broadband infrastructure, however. As of October, 2007, approximately 39% of rural households had high-speed Internet access, versus 54% of urban households.[13] The Pew Internet Broadband Report found that as of April 2009, 46% of rural Americans had broadband Internet access at home versus 67% of non-rural Americans.[14] Designating broadband as the service supported by federal universal service

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Recovery and Reinvestment Act of 2009: Broadband Hearings - Subcommittee on Communications, Technology, and the Internet, at 2 (Apr. 2, 2009), available at: http://energycommerce.house.gov/Press_111/20090402/testimony_seifert.pdf.

[9] 47 U.S.C. § 254(c)(1)(A) & (D).

[10] 47 U.S.C. § 254(c)(1)(B).

[11] High Speed Services for Internet Access, Status as of Dec. 31, 2007, Table 14 (Jan. 2009), available at: http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-287962A1.pdf.

[12] 47 U.S.C. § 254(c)(1)(C).

[13] Trends in Telephone Service, Table 2.9, (Aug. 2008), available at: http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-284932A1.pdf.

[14] *PEW Broadband Report*, at 14.

will enable the FCC to meet the goal of ensuring all Americans have access to advanced telecommunications and information services at reasonable rates.

Many have already recognized that the nation needs to stop bankrolling last century's narrowband voice services and refocus efforts on 21st century technology that opens the doors to so many other services and applications.[15] The FCC can follow the lead of states like California, who in December 2007, allocated $100 million over two years to the new California Advanced Services Fund ("CASF"), to provide incentives to companies to deploy broadband service to un-served and underserved areas of California, many of which are rural, remote, or socio-economically disadvantaged communities. The CASF provides up to 40% subsidy to qualifying companies and carriers to build and extend internet and broadband connections to unserved and underserved areas.[16] Similar to the Federal State Joint Board's recommendation to establish a broadband fund as part of the federal USF reforms, the California Public Utilities Commission (CPUC) focused first on funding for areas where no facilities-based provider offers broadband service with the ultimate goal of making available a level of broadband service that provides a reasonable balance of technology, engineering, and cost.

In short, it is past time for the Joint Board and the FCC to define universal service as the broadband networks consumers use to access multiple telecommunications and information services. If the government helps to support the infrastructure, and enforces open access and

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[15] *See, e.g.*, Reply to Comments of AT&T, High-Cost Universal Service Support; Federal-State Joint Board on Universal Service, WC Docket No. 05-337 & CC Docket No. 96-45, at 6-7 (filed June 8, 2009).

[16] The CASF was authorized by the California Public Utilities Commission on December 20, 2007, in D.07-12-054 in accordance with Public Utilities Code § 701.

nondiscrimination conditions, not only network operators but also software developers will provide the applications and services (voice, video, data, etc.) that consumers demand.

2. The increase in broadband funding must be coupled with a commensurate decrease and/or outright elimination of analog support.

Phase out of analog support at the same time the fund is repurposed to support broadband infrastructure is imperative. Consumers are weighed down by current support levels for traditional voice services that have resulted in continual increases in USF contribution rates, to a record high of 12.9% in the third quarter of 2009.[17] Skype urges the Commission to adopt proposals such as those proffered by the Benton Foundation, to create a specific timetable and transition plan to repurpose the high cost portion of the universal service fund to support broadband infrastructure.[18]

3. Broadband universal service support must account for BTOP and other government funding. The *NOI* requests comment on the impact of the broadband stimulus fund on the Commission's efforts to reform distribution of High Cost support.[19] Current rules account for USF support as carrier revenue. It is not clear whether or how such support is accounted for in capital costs. Skype believes that an applicant for USF funding must identify whether it has received funds under the Recovery Act or from other government sources, and reduce its cost basis for capital expenses accordingly. In so doing, the FCC will ensure that the

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[17] Proposed Third Quarter 2009 Universal Service Contribution Factor, Public Notice, FCC, CC Docket No. 96-45, DA 09-1322 (rel. June 12, 2009), available at: http://hraunfoss.fcc.gov/edocs_public/attachmatch/DA-09-1322A1.pdf.

[18] *See* Comments of Benton Foundation *et al*., at 11, 19.

[19] *See NOI*, ¶¶ 39-41.

universal service fund meets the important statutory requirement of sustainability,[20] and the reforms will facilitate a reduction in demand on the high-cost fund as well as commensurate reduction in contribution requirements that ultimately should be reflected in lower costs for consumers.

D. USF Should Support Demand As Well As Supply.

Skype encourages the Commission to gather accurate information about adoption of broadband in areas where *affordability* might be a constraint. In the case of the urban poor, service may be readily available, but many families can't afford the $30 to $50 it costs each month to get broadband.[21] Many families also lack computers at home. Among households with an annual income of $40,000 or less–about half the country–only half have broadband service.[22] Households with annual incomes above $50,000 are more than twice as likely to have broadband service.[23] Indeed, the Pew Internet Report shows that only 35% of adult Americans with household incomes under $20,000 had broadband at home as of April 2009.[24] The FCC needs to review affordability-based adoption trends as it crafts programs that support adoption of broadband Internet access for low-income consumers.

The FCC should also consider recommending expanded support aimed at fostering consumer demand for broadband, especially for consumers that lack broadband because of

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[20] *See* 47 U.S.C. § 254(b)(5).

[21] *See PEW Broadband Report*, at 40 (showing the largest barrier for dial-up users to switch to broadband is price).

[22] *PEW Broadband Report*, at 14.

[23] *Id.*

[24] *Id.*

affordability. Universal service benefits should ultimately flow to consumers, not stop with service providers.[25] Federal support should be available to make consumer access to and utilization of the applications, technologies, and customer equipment and devices more affordable, and policies should be directed towards openness and non-discrimination so that the consumer receives the maximum benefit from broadband support. An effective demand-side program could also provide critical technology literacy training that will enable consumers to take full advantage of the robust capabilities of broadband enabled communications, applications, and software. Skype discusses these demand-side themes at greater length, *infra*,[26] but notes that in order to support such affordability programs using universal service, the FCC would likely have to recommend changes in the statute to Congress.

E. Providers Receiving Universal Service Support for Broadband Deployment Must Abide By *Enhanced Internet Policy Principles* and Offer Stand-Alone Broadband

The *Enhanced Internet Policy Principles* must be enforceable rules that are a condition of USF support. Universal access to affordable, open, and robust broadband will be the driving force for change in our economy only to the extent that policies are technology agnostic and provide consumers greater choice and economic freedom. The openness principles mandated in the Recovery Act are a critical piece of the benefit to consumers offered by the BTOP. The FCC's National Broadband Plan must reflect these same consumer empowerment principles. Specifically, the Recovery Act requires that the principles must include nondiscrimination

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[25] Skype does not propose that it (or other application service providers) should be eligible for federal subsidies as a means of stimulating demand.

[26] *See infra* Section IV.

obligations that "at a minimum, [adhere] to the principles contained in the Commission's broadband policy statement."[27] Consistent with this law, network operators benefiting from the subsidies of the USF program must also provide consumers with broadband access pursuant to the *Enhanced Internet Policy Principles*. These simple conditions will ensure that all federal investment in broadband infrastructure provides the greatest benefit to consumers.

USF openness requirements should include not only adherence to the four principles contained in the Commission's *Internet Policy Statement*, but also an enforceable non-discrimination principle discussed *supra*[28] (and contained in the *Enhanced Internet Policy Principles*). By applying this fifth non-discrimination principle as a requirement of USF funding, the Commission will ensure that rural consumers and others in high-cost areas truly enjoy the benefits of an open Internet, including innovation and competition at both the application and network levels.

Recipients of government support must offer stand-alone broadband. Skype believes that a stand-alone broadband offering is an important piece of the Nation's Broadband Plan. At a minimum, the FCC must require a stand-alone offering, on a competitively neutral basis (including wireless broadband), as a condition of USF funding.

USF programs, like other government grants, should include conditions that benefit the public interest rather than the recipient of government funds. For example, the current USF High Cost program imposes minimum service requirements on recipients that benefit the

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[27] Recovery Act, § 6001(j) (citing FCC 05-15).

[28] *See supra* Section II.B.

consumers receiving universal service.[29] The RUS "Community Connect" Broadband Grant requires grantees to provide free broadband to every public school, public library, public medical clinic, public hospital, community college, public university, or law enforcement, fire and ambulance station in the service area for at least two years,[30] and also provide a local community center in the service area with at least ten computer terminals and free broadband service for at least two years.[31] Another example is the National Telecommunications and Information Administration's ("NTIA") Public Telecommunications Facilities Program ("PTFP"). The purpose of this program is to assist, through matching grants, in the planning and construction of public telecommunications facilities in order to extend delivery of such services to as many citizens as possible, increase participation by minorities and women, and strengthen the capability of existing public television and radio stations to provide such services to the public.[32] As a condition of this funding, however, grantees are restricted to purchasing equipment and supplies approved by NTIA,[33] must obtain approval for configuration changes,[34] are prohibited from broadcasting advertisements,[35] and must give the federal government a perfected lien on the purchased equipment.[36]

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29 47 CFR § 54.101(a).

30 7 CFR § 1739.11(c).

31 7 CFR § 1739.11(e).

32 15 C.F.R. § 2301.1.

33 15 C.F.R. § 2301.7.

34 15 C.F.R. § 2301.19(a)(3).

35 15 C.F.R. § 2301.19(a)(5).

36 15 C.F.R. § 2301.22(a).

Without consumer protections embodied in the guarantees of openness, non-discrimination, and stand-alone broadband attached to the receipt of federal USF dollars, the goal of broadband adoption could be lost. The Commission must ensure that consumers have sufficient incentives for subscribing to broadband in the first place. Subsidizing a constrained, 20th century, closed version of the Internet will not reverse the U.S. slide in international broadband rankings or lead to increased broadband subscribership numbers. Consumers must be able to exercise their right to choose the provider of innovative applications delivered over broadband networks.

An open Internet allows consumers to benefit from the entire array of innovations occurring at the edge of the network without the network operator playing the role of gate-keeper or favoring some applications or services over others. An open Internet will be a particular boon for rural broadband users, who will have full access to the same range of products and services as their urban counterparts and, and as sellers of products and services, will be able to conduct business around the country and the world, thus helping to mend the United States' "adoption gap."

IV. THE NATIONAL BROADBAND PLAN SHOULD ENABLE AND ENCOURAGE INNOVATIVE APPLICATIONS AND SERVICES THAT FUEL CONSUMER DEMAND FOR BROADBAND INTERNET ACCESS SERVICES

A. Open and Non-Discriminatory Broadband Service Enables Consumers to Experience Personalized Communications

Broadband services enable consumers to achieve personalized communications experiences. This "consumer at the center" paradigm has led to numerous benefits to consumers, network operators, and other participants in the broadband ecosystem. In the early days of the Internet, access was limited to dial-up modems that, for many consumers, required them to

employ their POTS telephone lines. Many consumers could not talk on the phone and use dial-up access services simultaneously. Wireless services were just starting to gain traction, but remained out of reach for the vast majority of consumers. Most consumers depended on their POTS line for communications. The advent of broadband, however, has allowed consumers to engage in simultaneous applications. Today, people can download content, talk on their POTS or wireless phones, and undertake a host of online applications simultaneously. In the past fifteen years, American consumers have gone from singular POTS-dependency to enjoying personalized, mobile, multi-faceted communications experiences. To promote and encourage the continued development of this consumer experience, the Commission must undertake measures that promote both the supply and availability of broadband services, but also encourage consumer uptake and demand.

A consumer-centric National Broadband Plan should focus on application layer competition as a means promote broadband deployment and uptake. A "consumer at the center" approach to broadband policy will ensure that consumer demand at all layers of the broadband ecosystem, especially at the application layer, will be harnessed to spur the deployment and uptake of broadband services, to the benefit of consumers, industry, and national policy. Further, support of the application layer of the broadband ecosystem requires that the Commission ensure that consumers have the right to access lawful content and applications, regardless of the mode of transmission. In sum, the Commission should apply the *Enhanced Internet Policy Principles* to ALL types of networks, including wireless networks, and should ensure that the openness and non-discrimination principles that guarantee consumers' Internet freedoms equally apply to all service platforms.

B. The National Broadband Policy Should Support Programs to Promote Consumer Demand for Broadband Services.

To ensure that all Americans are able to take advantage of the broadband Internet access infrastructure discussed herein, the FCC and the states must look beyond subsidizing infrastructure build-out (operator supply). Low-income individuals, the elderly, persons with disabilities, and other groups that are frequently disenfranchised in other parts of society, are less likely to purchase broadband an may have fewer opportunities to gain essential digital literacy skills.[37] Skype urges the Commission to adopt policies to enable consumer access to and utilization of broadband-enabled applications and technologies, make customer equipment and devices more affordable, and receive critical technology literacy training necessary to take full advantage of the robust capabilities of broadband enabled communications (consumer demand). In this regard, Skype supports those efforts undertaken by One Economy, which have led to thousands of unserved and underserved communities gain broadband access.[38] Specifically, Skype agrees with One Economy's assessment that the broadband deficit can be overcome by focusing on three areas: 1) availability of sufficient, desirable and competitive broadband options; 2) affordability, where price is compatible with a person's ability to pay; and 3) adoption, sustainable usage and uptake of broadband through investment into affordable connections, hardware, digital literacy, and other programs aimed at increasing consumer demand.[39]

Deployment of broadband to community anchor institutions will spur demand and user uptake of advanced communications services. To harvest the most efficiency from the

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[37] *See, e.g.*, *PEW Broadband Report*, at 36-38.

[38] *See* Comments of One Economy, at 3.

[39] *See* Comments of One Economy, at 6.

use of federal dollars spent on broadband deployment, the National Broadband Plan should consider recommendations to establish government support for deployment of broadband Internet access facilities to community "anchor institutions," including, but not limited to, community medical facilities, public housing developments, schools, libraries, community centers, senior citizen centers, and other institutions. As One Economy has recognized, the installation of high-speed networks at affordable prices in underserved and unserved communities will produce a social dividend on the future utilization of broadband services by community residents and businesses.[40]

While the National Broadband Plan, and the FCC's USF reform, should seek to promote the deployment of broadband to unserved and underserved areas of the country, it should also acknowledge that there are hard-to-reach populations (even in geographic areas that may have broadband availability) that could be better served through community anchor institutions. To this extent, Skype agrees with Google's view that these community anchor facilities can "act as a springboard for greater broadband usage and adoption for underserved, unserved and at-risk populations."[41] Broadband Internet access connections to community health care centers can radically transform the level, quality and access to health care in many areas. Likewise, deployment to public housing institutions, community centers, and senior citizen centers can help close the "digital divide." A national policy that encourages the deployment of broadband to these community anchor institutions will spur demand for broadband and applications that utilize broadband services.

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[40] *See* Comments of One Economy, at 6.

[41] *See* Google Comments, at 38.

The National Broadband Plan should promote access to technology and digital literacy training. In the *Intercarrier Compensation and Universal Service NPRM*,[42] the Commission proposed a Broadband Lifeline/Link Up Pilot Program to examine how the Lifeline and Link Up universal service support mechanism can be used to enhance access to broadband Internet access services for low-income Americans.[43] Skype supports the concept of the Pilot Program and suggests that it be expanded and rolled out nationwide as quickly as possible. The Commission proposed that the Pilot Program would support 50 percent of the cost of broadband Internet access service installation, including a broadband Internet access device, up to a total amount of $100.[44] The device could be a laptop computer, a desktop computer, or a handheld device, so long as the equipment has the capability to access the Internet at the speeds established per by the FCC, and the equipment carries at least a warranty.[45] Following the principles of openness, neutrality and non-discrimination that must apply to all broadband Internet access services receiving government subsidies, consumers will then have the option of utilizing any application over any device of their choosing thus fulfilling the primary goal of consumer empowerment through broadband availability, adoption, and utilization.

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[42] *High-Cost Universal Service Support, Federal-State Joint Board on Universal Service, Lifeline and Link Up, Universal Service Contribution Methodology, Numbering Resource Optimization, Implementation of the Local Competition Provisions in the Telecommunications Act of 1996, Developing a Unified Intercarrier Compensation Regime, Intercarrier Compensation for ISP-Bound Traffic, IP-Enabled Services*, Order on Remand and Report and Order and Further Notice of Proposed Rulemaking, Docket Nos. 05-337, 96-45, 03-109, 06-122, 99-200, 96-98, 01-92, 99-68 & 04-36, FCC 08-262 (rel. Nov. 5, 2008) ("*ICC/USF Order and FNPRM*").

[43] *See ICC/USF Order and NPRM*, ¶ 64.

[44] *See ICC/USF Order and NPRM*, ¶¶ 64, 81.

[45] *See ICC/USF Order and NPRM*,¶ 81. Skype also agrees that the device subsidy should be a one-time subsidy and limited to one unit per qualified household.

To ensure that the device subsidy is successful, and that broadband deployment is met with consumer responsiveness, the FCC should work with other coordinating agencies as well as state, regional, and local governments and the private sector to implement a digital literacy initiative to educate consumers about the transformative nature of broadband applications. Government educational efforts are nothing new: numerous educational efforts have been taken, often with private sector participation, on a host of issues including the availability of Lifeline and Linkup programs, phone service on Native American reservations, children's educational television programming, the digital television transition, and the benefits of abbreviated dialing for telecommunications relay services.[46] Similar to those efforts, digital literacy can propel demand and use of broadband services. And, importantly, such educational efforts will be aimed directly at those unserved and underserved populations where uptake lags the most. Serving a dual purpose, the Commission should consider recommendations in the National Broadband Plan to ensure that demand side investments are made that help remedy the "adoption gap," and ensure that broadband rollout is not met with consumer indifference.

[46] For example, Boston public schools have worked with the Boston Digital Bridge Foundation as part of the "Technology Goes Home" program to provide technology training to inner city families in an effort to address the digital divide. *See* www.cityofboston.gov/bra/digitalbridge/programs.html.

V. THE IMPORTANCE OF TIMING

Congress gave the FCC a significant task. However, the FCC's National Broadband Plan, and the policies that the Commission recommends therein, will not be self-effectuating. Skype cautions the FCC against focusing on the development of the Plan to the detriment of other open proceedings. The Commission should develop the Plan in conjunction with its open proceedings, and in some cases establish new proceedings to effectuate United States broadband policy in a timely manner. For example, rules on non-discrimination,[1] open network access,[2] wireless device freedom,[3] and other areas[4] can, and should, be adopted at the same time

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[1] *See Broadband Industry Practices*, Notice of Inquiry, WC Docket No. 07-52 (rel. Apr. 16, 2007) (seeking comment on "whether [the FCC] should incorporate a new principle of nondiscrimination" into the *Internet Policy Statement*). Skype proposes that the Commission issue a notice of proposed rulemaking with respect to that Notice of Inquiry and the petition filed in the same docket by Vuze, Inc. requesting clarification of reasonable network management principles. *See Vuze, Inc. Petition to Establish Rules Governing Network Management Practices by Broadband Network Operators, Broadband Industry Practices*, WC Docket No. 07-52 (filed. Nov. 14, 2007). If the Commission seeks comments on an expedited basis, timely completion of this rulemaking (within six months) is achievable given that the Commission has already sought and received comment on this topic under both the Notice of Inquiry and Vuze's petition. *See* Public Notice, Comment Sought on Petition for Rulemaking to Establish Rules Governing Network Management Practices by Broadband Network Operators, DA 08-52 (rel. Jan. 14, 2008).

[2] *See id. See also Petition of Skype Communications S.A.R.L. to Confirm a Consumer's Right to Use Internet Communications Software and Attach Devices to Wireless Networks*, RM-11361 (filed Feb. 20, 2007) ("*Skype Petition*"). Skype proposes that the Commission issue a notice of proposed rulemaking with respect to that Notice of Inquiry and the petition filed in the same docket by Vuze, Inc. on November 14, 2007, requesting clarification of reasonable network management principles. Timely completion of this rulemaking (within six months) is achievable given that the Commission has already sought and received comment on both the Notice of Inquiry and Vuze's petition. *See* Public Notice, Comment Sought on Petition for Rulemaking to Establish Rules Governing Network Management Practices by Broadband Network Operators, DA 08-52 (rel. Jan. 14, 2008).

[3] *See Skype Petition.*

[4] *See, e.g., High-Cost Universal Service Support, Federal-State Joint Board on Universal Service, Lifeline and Link Up, Universal Service Contribution Methodology, Numbering Resource Optimization, Implementation of the Local Competition Provisions in the Telecommunications Act of 1996, Developing a Unified Intercarrier Compensation Regime, Intercarrier Compensation for ISP-Bound Traffic, IP-Enabled Services*, Order on Remand and Report and Order and Further Notice of Proposed Rulemaking, Docket Nos. 05-337, 96-45, 03-109, 06-

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the FCC issues the Plan. In instances where the Commission has issued a Notice of Inquiry, or for which a Petition for Rulemaking has been filed on a particular topic, the Commission should institute new rulemaking proceedings, and request comment on those topics on an expedited basis (especially given the number of times parties have already supplied information and comments to the Commission on such topics). Waiting until *after* February 17, 2010 to implement all of the Commission's recommendations would only delay many policies that, if put into effect today, would create enormous public benefits and bring the Nation closer to its goal of ubiquitous broadband.

Through this important proceeding, the Commission can develop goals and policies to meet those goals. The Commission should adopt a new vision of broadband policy, and employ policies that foster multi-modal competition, diversity, openness, and non-discrimination. Doing so will, in turn, foster growth at the network layer of the broadband ecosystem, as well as among application and service providers. The Commission should also consider, and propose to Congress to the extent necessary, USF reform that puts resources into the areas that will most efficiently utilize that capital. With the conditions Skype outlines above, broadband can provide limitless communication possibilities to Americans and should therefore be the main focus of federal support. The Commission should also design and promote policies that will encourage broadband demand and uptake by consumers, such as funding for broadband deployment

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122, 99-200, 96-98, 01-92, 99-68 & 04-36, FCC 08-262 (rel. Nov. 5, 2008) (whereby the Commission could act on consumer-demand for broadband services by establishing the FCC's proposed Broadband Lifeline/Link Up Pilot Program). Through these proceedings the Commission could also implement many of Skype's proposals concerning USF, such as conditioning USF support on adherence to open access, standalone broadband, and other commitments; that USF support recognize and account for BTOP funding; and other related policies.

to community anchor institutions, digital literacy initiatives, and device and equipment support for low-income consumers.

Respectfully submitted,

/s/

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